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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Forest Insect and Disease Management
P.O. Box 5895, Asheville, N.C. 28803

REPLY TO: 5230 - Evaluation 77-1-11 May 18, 1977

SUBJECT: Fall Cankerworm

TO: W. Pat Thomas, Forest Supervisor
Chattahoochee National Forest GA.

The fall cankerworm, Alsophila pometaria (Harris) heavily defoliated about 25,000 acres on the Brasstown Ranger District of the Chattahoochee National Forest in the spring of 1976. In November 1976 the Forest Insect and Disease Management Group put out sticky band traps to predict both the amount of defoliation and the extent of the infestation likely this spring. In March 1977 an egg mass survey was conducted to determine the amount of parasitism and egg viability. Results from both surveys indicate a continued spread and heavy defoliation in areas detected last year.

Sticky bands were placed in three of four heavily infested areas. Area 1 contained 6 plots from Addis Gap to Deep Gap, Area 2 contained 20 plots extending along Indian Grave Gap to Tray Mountain, and Area 3 held 15 plots stretching from Lake Winfield Scott to Wildcat Mountain. Defoliation this spring was predicted by a system developed by J. D. Kegg, whereby the number of trapped females is correlated to the amount of damage anticipated. Results of the survey are shown in Table 1.

Egg masses were collected and reared out in the laboratory to determine egg viability. After hatching the egg masses were dissected to determine the cause for failure of some of the eggs to hatch, due either to parasitism or being non-viable. Parasitized eggs contained the developing or adult form of the egg parasite Telenomus alsophilae (Vier.). The number of eggs per mass were counted and the percent of sound, non-viable and parasitized eggs for each area were calculated. Results of the egg viability count are contained in Table 2.

Throughout each infested area egg viability averaged about 80 percent; down 6 percent from last year but not enough to make a significant difference in the amount of defoliation expected. Egg parasitism has increased somewhat over most of the infestations but is not yet present in high enough proportions to effect the fall cankerworm population. Together the surveys indicate the presence of a healthy insect population and a heavy defoliation is expected again this year.

Impact plots have been established in the infested areas to ascertain growth loss, die back, and mortality resulting from continual defoliation. To present there is very little dieback and no mortality detected in the infested areas.

Forest Insect and Disease Management will conduct an aerial survey in early June to determine the extent and areas of defoliation from this spring.

If there are any questions please contact Forest Insect and Disease Management, Asheville, N.C.

Harold W. Flake

HAROLD W. FLAKE
Field Representative

cc: District Ranger, Brasstown Ranger District

Table 1: Predicted Defoliation for Each Plot in Each of the Tree Areas Sampled

Addis Gap			Tray Mountain			Neal's Gap		
Area 1 Plot #	Predicted Defoliation 1976	Predicted Defoliation 1977	Area 2 Plot #	Predicted Defoliation 1976	Predicted Defoliation 1977	Area 3 Plot #	Predicted Defoliation 1976	Predicted Defoliation 1977
1	H	H	1	H	H	1	H	H
2	H		2	H	H	2	H	M
3	H	H	3	H	H	3	H	H
4	H		4	H	H	4	H	H
5	H	H	5	H	H	5	H	H
6	H		6	H	H	6	L	H
7	H	H	7	H	H	7	L	H
8	H		8	H	H	8	L	M
9	H	M	9	H	H	9	L	L
10	H		10	H	H	10	H	H
11		L	11	H	H	11		H
12			12	H	H	12		M
			13	L	H	14		L
			14	L	H	15		L
			15	L	H			
			16	L	H			
			17		H			
			18		H			
			19		H			
			20		M			

H = Heavy

M = Medium

L = Light

Table 2: Percent of Parasitized, Non-viable and Sound Fall Cankerworm Eggs Collected from the Chattahoochee National Forest, Georgia

Area Number	Total # Eggs Sampled		% Eggs Parasitized		% Eggs Non-viable		% Eggs Sound	
	1976	1977	1976	1977	1976	1977	1976	1977
1	17,154	5,950	1.78	3.43	12.16	16.97	86.07	79.60
2	18,273	7,150	3.57	3.34	9.57	18.36	86.87	78.14
3	10,336	11,112	1.66	2.57	12.71	11.94	85.62	85.39

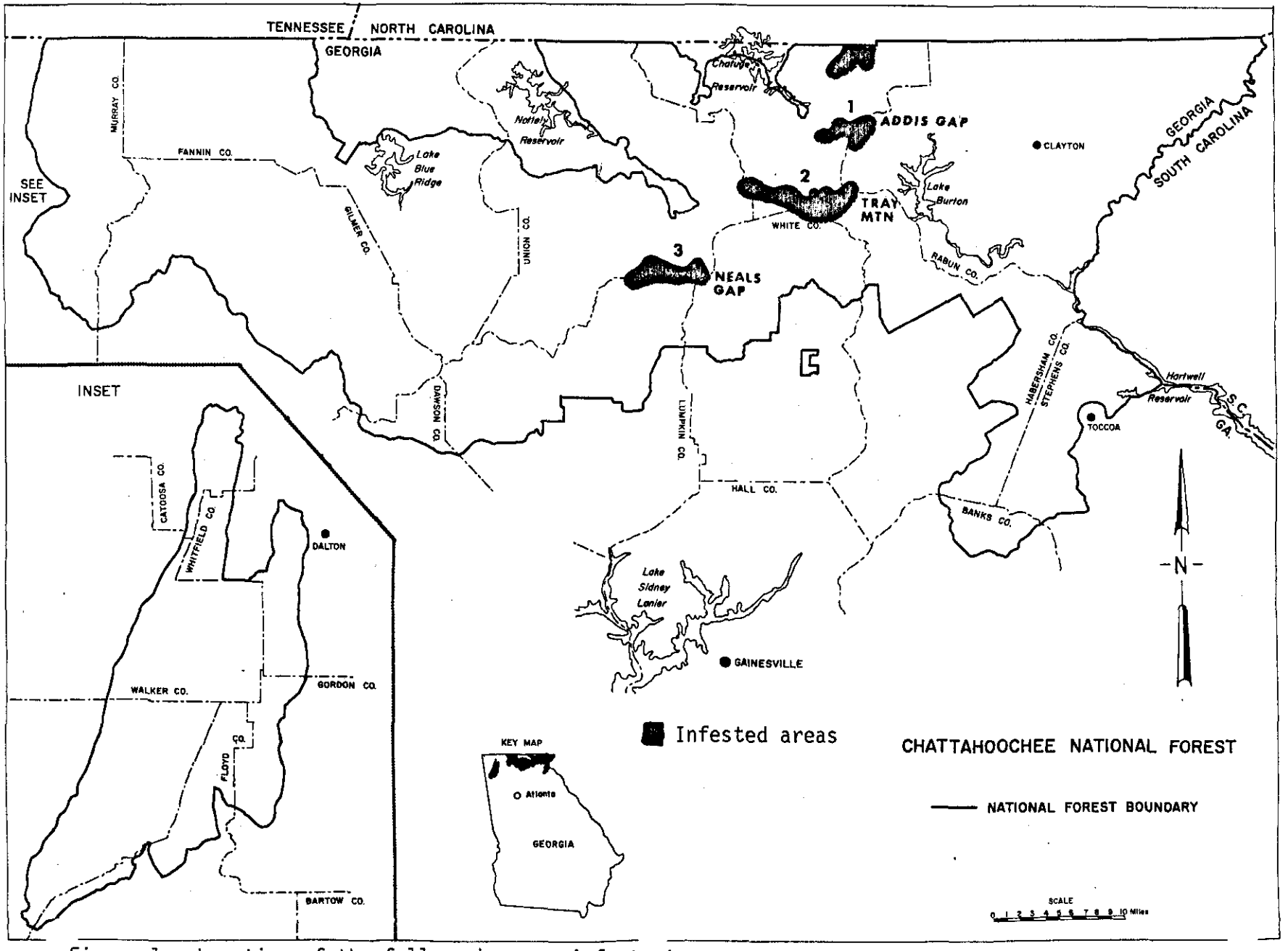

Figure 1. Location of the fall cankerworm infestations.

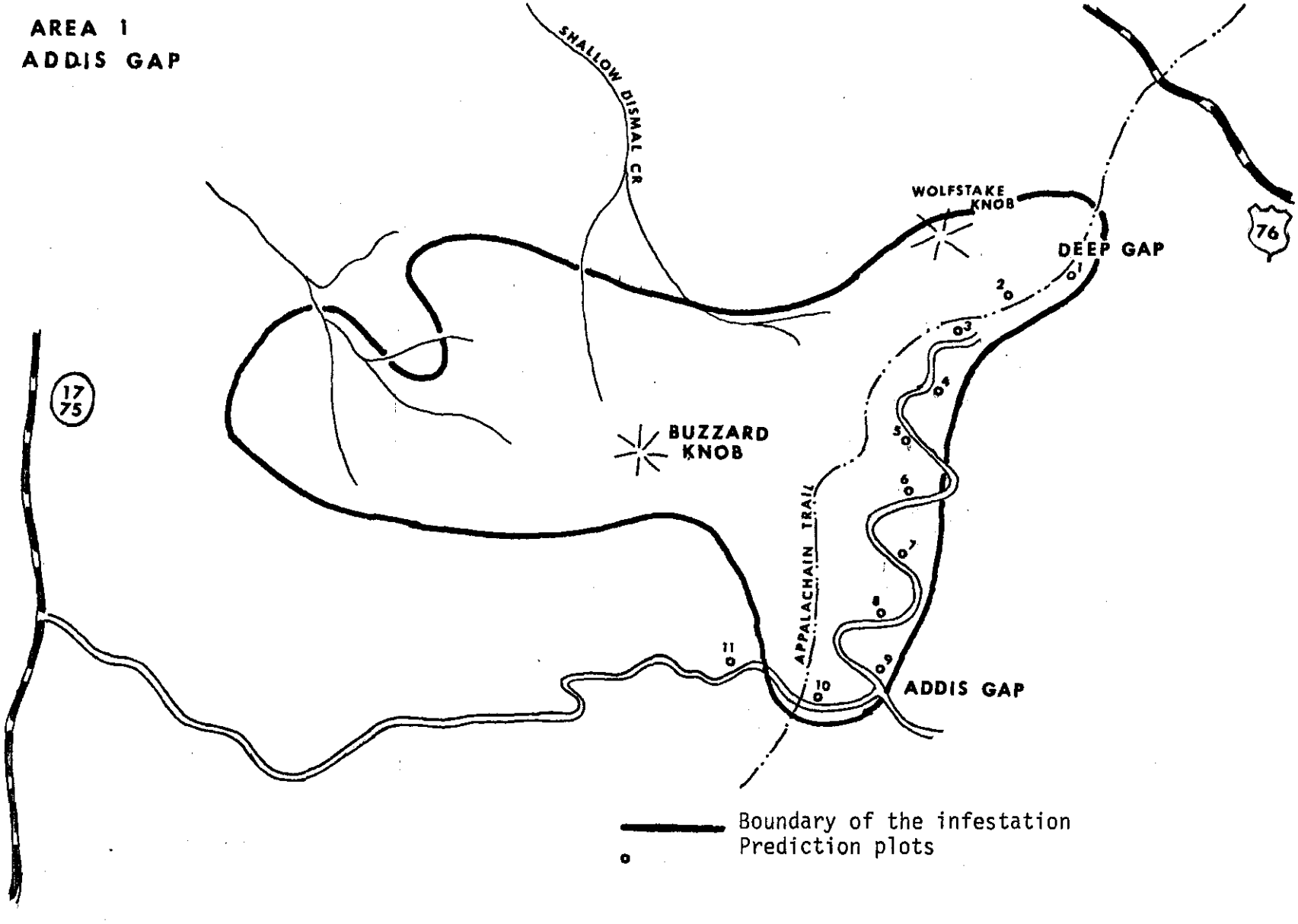

Figure 2. Location of sample plots within infested areas, Chattahoochee National Forest, Georgia, 1977.

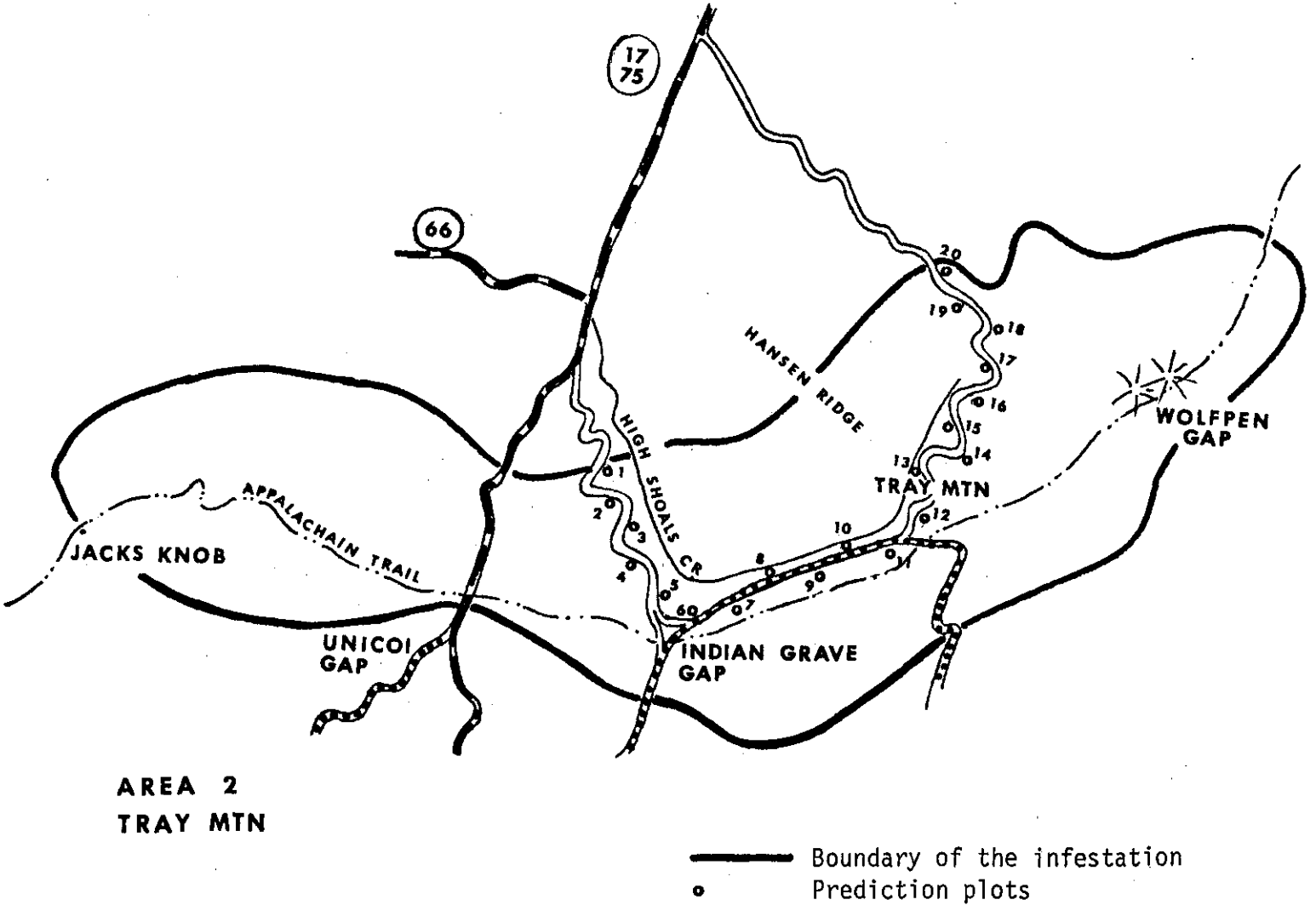

Figure 3. Location of sample plots within infested areas, Chattahoochee National Forest, Georgia, 1977.

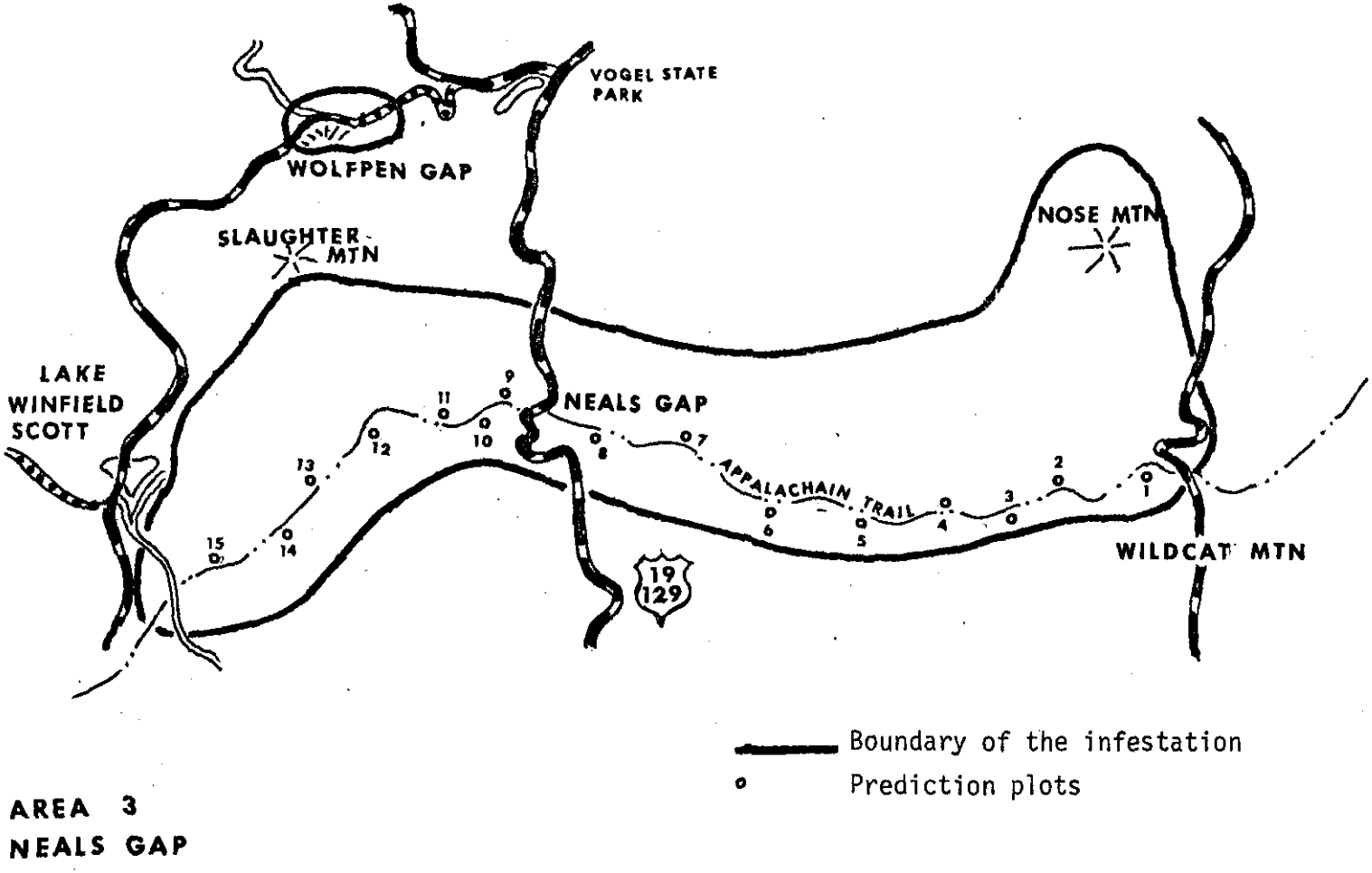

Figure 4. Location of sample plots within infested areas, Chattahoochee National Forest, Georgia, 1977.